Before the
NATIONAL TELECOMMUNICATIONS AND INFORMATION
ADMINISTRATION
And the
RURAL UTILITIES SERVICE
Washington, D.C.

In the Matter of	)	
	)	
American Recovery and Reinvestment Act	)	**Docket No. 0907141137-91375-**
of 2009	)	**05**
	)	
Broadband Initiatives Program	)	**RIN: 0572-ZA01**
	)	
Broadband Technology Opportunities	)	**RIN: 0660-ZA28**
Program	)	

COMMENTS OF FIBERTOWER CORPORATION

Per the National Telecommunications and Information Administration ("NTIA") and the Rural Utilities Service ("RUS") Joint Request for Information ("RFI")),[1] FiberTower Corp. submits the following comments.

Formed in 2000, FiberTower Corp. ("FiberTower") is a leading alternative carrier for middle mile and last mile backhaul.[2] FiberTower operates a 100% facilities-based telecommunications network using fiber optic and wireless assets. Its network spans more than 6,000 mobile base stations in 13 U.S. markets. In addition, FiberTower's network currently covers approximately 12,000 route miles with 7,000 miles covered using fixed wireless and another 5,000 miles using dark fiber. FiberTower's spectrum portfolio represents one of the largest and most comprehensive collections of wide-area millimeter wave spectrum in the United States, with national-scope license coverage in the 39 GHz and 24 GHz bands. FiberTower's spectrum licenses extend over

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[1]   Joint Request for Information, Rural Utilities Service and National Telecommunications and Information Administration, 74 Fed. Reg. 58940 (Nov. 16, 2009) ("RFI").
[2]   Backhaul is the transport of voice, video, and data traffic from a customer location (such as a cell site) back to a switching center or to the Internet.

substantially all of the continental United States, covering a population of approximately 300 million. The portfolio includes more than 740 MHz in the top 20 U.S. metropolitan areas. In the aggregate, these channels cover approximately 1.55 billion channel pops.[3]

FiberTower offers its Middle Mile services using a multiple use platform, or MuniFrame®, in an open-access manner to entities that reasonably seek to utilize such services, including and not limited to, wireless and wireline incumbent and competitive last-mile service providers, public safety and first responder networks, schools, libraries, medical facilities, community learning centers and anchor institutions, and businesses.

FiberTower participated in Round 1 of NTIA's Broadband Technology Opportunities Program ("BTOP"), through its subsidiary, ART Leasing Inc. *dba* FiberTower Broadband Corp., which filed seven (7) middle mile backhaul applications to reach underserved and unserved areas primarily in Massachusetts, Indiana, Alabama, Georgia, Mississippi, Tennessee, Texas, and Virginia, yet also included proposed coverage in certain portions of nine (9) others states, including: Arkansas, Connecticut, Louisiana, Maryland, Michigan, New Mexico, New York, North Carolina, and West Virginia. Through the process of reviewing the BTOP Program requirements, as well as preparing these individual applications, FiberTower respectfully suggests the following logistical and policy recommendations.

A. Application Process Improvement Recommendations

a. Insert Data Fields that Require Applicants to Show: (i) the Cost for their Project (ii), the Underserved and Unserved Population in the Area they Seek To Cover, and (iii) the Services they Propose to Bring to that Area.

The Round 1 application offered uniformity in making it easy to determine the amount of funds the applicants sought. Yet, it appeared virtually impossible from the publicly filed application to clearly compare the unserved and underserved population in the area the applicant proposed to serve and with what services and at what price. There is no uniform method in Round 1 for creating a scorecard for comparing applicants on the main point, which is "what is the amount of coverage proposed for the taxpayer dollar?" In other words, the Round 1 applications lacked a standardized data entry field that

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[3] Calculated as the number of channels in a given area multiplied by the population, as measured in the 2000 Census.

required uniformity for determining two factors that are key in order to compare competing proposals:

- Population. What is the population of unserved and underserved to which the application seeks to provide service; and

- Define the services. For middle mile applicants, for example, a uniform data field is needed for clearly comparing whether the middle mile applicant proposes to offer services to all last-mile providers in the proposed coverage area.

It is recommended that these data fields be included in Round 2. It is further recommended that research occur with all Round 1 applicants to make sure such comparison scorecards are developed to assess these factors prior to award.

b. Logistical Inefficiencies and Suggested Changes to Format

A checklist of items to consider for the Round 2 application forms is included in Attachment 1.

As NTIA, RUS and other applicants previously noted during the Round 1 application process, the uploading of the documents and supplements required an enormous amount of time and capacity. Making many of the upload documents .pdf would streamline the process considerably. Similarly, NTIA and RUS should consider enabling the upload of Geographic Information System (GIS) files using MapInfo or ArcInfo, or similar software, to designate service areas, rather then census block lists, which are far too cumbersome.

Applicants should have further flexibility in their certain areas of the applications. The restrictions between BIP and BTOP are unnecessarily forced, and applicants should be able to choose which program best fits their particular industry.

Lastly, several of the sections could be streamlined with a few simple changes:

- Format and number the sections of the on-line version of the application to match the final application format and section numbers. The on-line application should mirror the final version.
- Combine Section 8 / Executive Summary and Section 10 / BTOP Project Purpose into one Section.

- In Section 14, there should not be a limit to the number of census blocks that can be uploaded. Large scale projects will cover more than the 750 block limit.

b. Policy Considerations for Middle Mile Projects

The following core policy considerations are recommended:

- <u>Focus on the Middle Mile</u>. NTIA and RUS should continue to focus significant second round BTOP and BIP funds on middle mile infrastructure projects due to the multiplier effect they have on creating jobs and enabling last-mile projects.

- <u>Require Multiple-Use Open Access Middle Mile Platforms</u>. When funding middle mile, make certain the applicant offers to provide middle mile services to all the community anchor institutions and wireless and wireline carriers in the proposed service area. Such platforms make much more efficient use of taxpayer funds and enable broadband to a much greater population.

- <u>Last Mile Providers and Community Anchor Institutions Will Migrate to Efficiently Priced and Accessible Middle Mile Platforms</u>. There is no need to "pre-require" that middle mile applications also contain last mile partners because such partnerships will naturally flow once middle mile platforms are built. Instead, emphasize the most efficient middle mile platforms.

- <u>Allow Spectrum Leasing</u>. Allow applicants to access the efficiencies that spectrum leasing offers, as defined by the long-standing Federal Communications Commission (FCC) Secondary Markets policy.

- <u>Work with the FCC to Enable Access to Point-to-Point Licensed TV White Space for Middle Mile and Backhaul.</u>

NTIA/RUS' goal should be to fund Middle Mile projects that provide new coverage to the greatest unserved and underserved populations and geographies. Applications should contain data entry fields that allow NTIA and RUS to easily draw a

direct line between the percentage of unserved/underserved populations reached with Middle Mile and jobs creation and the number of Middle Mile priority targets eligible for connectivity service (schools, libraries, medical, wireless, wire-line, etc) in each unserved/underserved area and job creation.

Emphasis on Middle Mile projects should be on providing "equal and non discriminatory" access to community anchor institutions and last mile providers to multiple-use middle mile platform systems. FiberTower calls such a platform a "MuniFrame®." Middle Mile project funding should be awarded to the applications that make the most efficient use of capital, have a multiplier effect, and build networks where they are missing or cannot be built without government stimulus due to high cost nature. Further, NTIA should focus on projects that provide the needed capacity and also possess the pre-designed ability to add capacity as needed. For example: no need to overbuild 100% fiber in one area at the expense of five other areas, when all areas can be served with the hybrid fixed wireless-fiber model for the same price, and may easily obtain network capacity upgrades as necessary. Adding capacity to existing wireless cell sites ought to be a key part of achieving some of the purposes. The future is wireless, and some funds should be directed to networks that bring Middle Mile to cell sites.

NTIA/RUS should not give *priority* to Middle Mile projects in which there are commitments from Last Mile service providers. Middle Mile projects are by nature high-leverage, enabling solutions which will facilitate both existing and new Last Mile providers. However, it is often not possible for Middle Mile applicants to secure commitments from Last Mile providers in the timeframes associated with the application process. Creating a clearinghouse website for Last Mile providers to access Middle Mile networks could assist in linking these relationships. FiberTower currently provides information on its website[4] supplying Last Mile providers, as well as end users, with detailed analysis on connecting to our Middle Mile systems, and also allows community anchor institutions and wireless and wireline carriers to register projects for possible middle mile connectivity.

Round 2 should not focus on projects such as the Middle Mile Comprehensive Community Projects, as that do not impact a large number and broad range of users or

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[4]   *See* http://www.fibertower.com, Stimulus/BTOP section.

offer the high investment leverage that other Middle Mile projects can. If any funds are set aside for non-efficient Comprehensive Community Projects, it should be a small percentage of the total available funds. It is not necessary to emphasize linkage to "community anchor institutions", as these connections happen naturally as middle mile open access platforms are deployed. Given the 20% capital expenditure ("capex") and the fact that applicants need to run an EBITDA-positive[5] business, there are natural economic incentives to drive traffic onto Middle Mile networks.

- Align the Secondary Spectrum Markets Policy with BTOP

The Notice of Funds Availability ("NOFA") for the first round Broadband Telecommunications Opportunity Program ("BTOP") prohibited applicants from utilizing program funds for acquiring rights to utilize electromagnetic spectrum.

In the marketplace there are at least four known methods by which an applicant could acquire spectrum usage rights.

1. Federal Communications Commission ("FCC") spectrum auction;
2. FCC fee-based applications;
3. Purchase spectrum licenses in the private marketplace;
4. Lease spectrum in the private marketplace.

- Facilitate the Private Marketplace & Support Federal Spectrum Policy

It probably makes little sense for a BTOP applicant to participate in an FCC spectrum auction and use BTOP funds to acquire said federal spectrum. Yet, a prohibition on private marketplace spectrum acquisitions or private leasing seems shortsighted in that it makes it much more difficult to efficiently use the taxpayer's dollars to reach unserved and underserved areas, and it also undermines the FCC's own secondary spectrum markets policy.[6]

The secondary markets policy allows license holders to: (i) lease or (ii) sell spectrum; that leased or sold spectrum may comprise whole licenses or partitioned or

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[5]   Earnings before interest, taxes, depreciation and amortization ("EBITDA").

[6]   *See* Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets, *Second Order on Reconsideration*, WT Docket No. 00-230 (Released: Oct. 17, 2008); *see also* Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets, *Second Report and Order*, *Order on Reconsideration*, and *Second Further Notice of Proposed Rulemaking*, WT Docket No. 00-230 (2004).

disaggregated licenses. This policy brings underutilized parts of spectrum licenses to the marketplace. It is federal policy to promote spectrum leasing. Such leasing allows carriers and end users, whether large or small, easier and less expensive access to provision broadband services. This especially true in unserved and underserved areas.

The secondary markets policy thus brings lower cost services (compared to buying fiber or having to buy an expensive and oversized spectrum license when you only need coverage in a small spot), and motivates license holders to more efficiently use their license. No rationale exists in the NOFA justifying the prohibition on utilizing the secondary spectrum markets.

Right now NTIA is tasked with taking spectrum from federal agencies in order to address spectrum shortages in the commercial marketplace, in large part to make broadband services available nationwide. It would be great if NTIA facilitated the wise secondary spectrum markets policy, versus hindering it, by allowing BTOP applicants to utilize the private spectrum marketplace.

- <u>Support point-to-point licensing for TV White Spaces available in unserved and underserved areas.</u>

Use of taxpayer funds would be much efficient for certain middle mile projects if the FCC makes a swift decision to authorize fixed, point-to-point licensed use of a portion of the TV White Spaces. FiberTower has joined Sprint Nextel, COMPTEL, and RTG in separate filing on this subject in the instant Round 2 RFI proceeding. The parties have filed numerous pleadings in the FCC's TV White Spaces proceeding encouraging the FCC to allow licensed, fixed point-to-point use of the TV White Spaces on UHF TV Channels 21-35 and 39-51 for: (1) up to six vacant TV White Spaces channels second or greater adjacent to a TV broadcast station in rural counties; and (2) any vacant TV White Spaces channels third or greater adjacent to a TV broadcast station in all counties.[7] To

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[7]   Reply Comments of FiberTower, RTG, COMPTEL, and Sprint Nextel – NBP Public Notice #6, GN Docket Nos. 09-47, 09-51, 09-137 (filed Nov. 13, 2009) ("Coalition Nov. 13 Comments"); *Ex Parte* filing by FiberTower, Sprint Nextel, RTG, and COMPTEL, GN Docket No. 09-51 and ET Docket Nos. 04-186, 02-380 (filed Nov. 11, 2009); Comments of FiberTower, RTG, COMPTEL, and Sprint Nextel – NBP Public Notice #11, GN Docket Nos. 09-47, 09-51, 09-137 (filed Nov. 4, 2009); *Ex Parte* filing by FiberTower, Sprint Nextel, RTG, and COMPTEL, ET Docket Nos. 04-186, 02-380 (filed Oct. 28, 2009); Comments of FiberTower, RTG, COMPTEL, and Sprint Nextel – NBP Public Notice #6, GN Docket Nos. 09-47, 09-51, 09-137 (filed Oct. 23, 2009); Request for Expedited Consideration filed by FiberTower, RTG, COMPTEL, and Sprint Nextel, ET Docket Nos. 04-186, 02-380 (filed July 14, 2009); Reply to Oppositions filed by FiberTower, RTG, COMPTEL, and Sprint Nextel, ET Docket Nos. 04-186, 02-380

support and enhance the efforts of NTIA and RUS to stimulate cost effective broadband access and use in rural areas, the FCC should adopt the Coalition's proposal or waive its rules as necessary for BTOP and BIP applicants seeking to deploy middle mile infrastructure.

B. Application Review and Evaluation Recommendations

For Round 2, applicants would like to see NTIA/RUS providing the applications directly to states for their review, as opposed to asking applicants to provide copies. Feedback from state agencies to FiberTower indicated some frustration that states were asked to review projects that may not have been viable under the statute's requirements; additionally, FiberTower found some states were not proactive in seeking out applications, particularly programs that were competitive with a state or local run program. As such, FiberTower expects NTIA will ensure that state and local government-led projects do not force out privately funded projects. Private industry's natural profit-making motives generate more efficient network building and will drive more traffic onto networks once they are extended into previously unserved areas. Likewise, certain institutions, such as educational facilities, should not be given greater weight than other applicants. All applications should be evaluated fairly and consistently against a common set of criteria.

The American Recovery and Reinvestment Act of 2009 ("ARRA") statutory language enumerates a number of purposes, of which "unserved and underserved" service area definitions are only two.[8] The requirement that all applications hinge on "unserved and underserved" definitions elevates a subset of purposes beyond the ARRA plain language. From a public policy standpoint, this has the effect of invalidating many attractive applications that otherwise meet one or more ARRA purposes because they may not meet the "unserved and underserved" eligibility requirements. One approach to

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(filed May 18, 2009) ("Reply to Oppositions"); Petition for Reconsideration filed by FiberTower, RTG, COMPTEL, and Sprint Nextel, ET Docket Nos. 04-186, 02-380 (filed Mar. 19, 2009); *Ex Parte* filing by FiberTower, Sprint Nextel, RTG, and COMPTEL, ET Docket Nos. 04-186, 02-380 (filed Oct. 31, 2008); "Optimizing the TV Bands White Spaces: A Licensed, Fixed-Use Model for Interference-Free Television and Increased Broadband Deployment in Rural and Urban Areas," *Ex Parte* filing by FiberTower and RTG, ET Docket Nos. 04-186, 02-380 (filed Oct. 2, 2007).

[8]   American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115 (2009) ("ARRA").

address this issue would be to use unserved and underserved definitions as scoring criteria instead of eligibility criteria.

To support transparency and confidentiality concerns, two primary concerns of ARRA, NTIA and/or RUS should consider classifying each section of the application and each attachment as either a) public, or b) proprietary, and make the public items available for public viewing on the agency web sites.

FiberTower also found a number of policy and logistical issues with the specification of service areas as currently designed in the Program application. For Middle Mile projects, service areas are defined as groups of contiguous census blocks adjacent to the middle mile route. Different applicants, however, may take different approaches to defining this area. For example, applicants may define service area based on any number of methodologies, including radius from backhaul towers, distance from the route, or the set of CDPs that the route touches, or delineated based on last mile partners' footprints. Because different applicants make use of different methodologies for service area definition, different applicants for the same Middle Mile routes could have arbitrarily different service areas. One approach to address this issue would be to provide guidelines as to how applicants can define the Middle Mile service area.

The NOFA also required applicants to use 2000 Census data at the Block-level.[9] This data is outdated and does not line up with current data on population and household data on broadband availability and penetration. This can cause a data mismatch between the numerator and denominator in unserved and underserved calculations. Any given application, therefore, can be in error as to the unserved or underserved nature of its service area at the Census Block level. If the eligibility hinges on precise service area definitions, applications may be rejected based on such inherent data issues. As previously suggested, one method to address this issue would be to use unserved and underserved definitions, and the strength and methodology of the underlying data used by the applicant, as scoring criteria instead of eligibility criteria.

In addition, the online mapping tool for service areas required imprecise manual drawing. Although the census blocks could be uploaded, there was a limit to the number

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[9]   Notice of Funds Availability, Rural Utilities Service and National Telecommunications and Information Administration, at 24-25, 42 (rel. Jul. 1, 2009) ("*NOFA*"), *available at* http://www.ntia.doc.gov; *see also* 74 Fed. Reg. 32545 (Jul. 8, 2009).

of Census blocks that could be manually included. While FiberTower used best efforts to accurately draw its service area, it was extraordinarily difficult to use the online mapping tool to reflect the precise service area at the census block level.[10]

Conclusion

For the aforementioned reasons, FiberTower requests that NTIA support the following positions.

- Focus on the Middle Mile. NTIA and RUS should continue to focus significant second round BTOP and BIP funds on middle mile infrastructure projects due to the multiplier effect they have on creating jobs and enabling last-mile projects.

- Require Multiple-Use Open Access Middle Mile Platforms. When funding middle mile, make certain the applicant offers to provide middle mile services to all the community anchor institutions and wireless and wireline carriers in the proposed service area. Such platforms make much more efficient use of taxpayer funds and enable broadband to a much greater population.

- Last Mile Providers and Community Anchor Institutions Will Migrate to Efficiently Priced and Accessible Middle Mile Platforms. There is no need to "pre-require" that middle mile applications also contain last mile partners because such partnerships will naturally flow once middle mile platforms are built. Instead, emphasize the most efficient middle mile platforms.

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[10] Problematically, the incumbent service area challenge therefore is made upon imprecise representations of the applicant's service area. Because of this issue, applicants should be given the opportunity to respond to incumbent challenges.

- Allow Spectrum Leasing. Allow applicants to access the efficiencies that spectrum leasing offers, as defined by the long-standing Federal Communications Commission (FCC) Secondary Markets policy.

- Work with the FCC to Enable Access to Point-to-Point Licensed TV White Space for Middle Mile and Backhaul.

Respectfully Submitted,

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Attachment 1

BTOP Application Process Improvement Recommendations Checklist:

1. Insert data fields that require applicants to show: (i) the cost for their project (ii), the population of underserved and unserved in the area they seek to cover, and (iii) the services they propose to bring to that area.
2. The uploading of the documents and supplements took too long. Making the upload documents .pdf would save time.
3. Make it easier for applicants to file multiple applications by entering common information and uploading common documents only once, and then linking each application to this common information.
4. Specification of Service Areas – enable the uploading of Geographic Information System (GIS) shape files (using MapInfo or ArcInfo or some similar software) rather then census block lists, which are far too cumbersome.
5. Format and number the sections of the on-line version of the application to match the final application format and section numbers. The on-line application should mirror the final version.
6. Eliminate "Section 31 – Certification by Engineer." An engineer certifying a project deployment schedule does not add any value or improve the likelihood of the project being delivered on time.
7. Combine "Section 8 - Executive Summary" and "Section 10 - BTOP Project Purpose" into one Section.
8. Remove Section 14 Census Block Upload Limits. Do not limit the number of census blocks that can be uploaded. Large scale projects will cover more than the 750 block limit.
9. Transparency and Confidentiality. Classify each section of the application and each attachment as either a) public or b) proprietary, and make the public items available for public viewing on the NTIA/RUS web site.
10. Specification of Service Areas. Provide specific guidelines for applicants to define the population and geographic coverage for a middle mile service area. For middle mile projects, service areas are defined as groups of contiguous census blocks adjacent to the middle mile route.
    a. Different applicants may however take different approaches to defining this area. For example, applicants may define service area based on any number of methodologies including radius from backhaul towers, distance from the route, or the set of census areas or CDPs that the route touches, or delineated based on last mile partners' footprints. Because different applicants make use different methodologies for service area definition, different applicants for the same middle mile routes could have arbitrarily different service areas.
    b. The NOFA required applicants to use 2000 Census data at the Block-level. This data is outdated and does not line up with current data on population and household data on broadband availability and penetration. This can

cause a data mismatch between the numerator and denominator in un-served and underserved calculations. Any given application, therefore, can be in error as to the un-served or underserved nature of its service area at the Census Block level. If the eligibility hinges on precise service area definitions, applications may be rejected based on such inherent data issues. One approach to address this issue would be to use un-served and underserved definitions and the strength and methodology of the underlying data used by the applicant as scoring criteria instead of eligibility criteria.

11. Make compliance with the meeting unserved and underserved definitions a scoring criteria instead of eligibility criteria. The ARRA statutory language enumerates a number of purposes of which "unserved and underserved" service area definitions are only two. The requirement that all applications hinge on "unserved and underserved" definitions elevates a subset of purposes beyond the plain language of ARRA. This has the effect of invalidating many attractive applications from a public policy standpoint that meet one or more ARRA purposes because they may not meet the "un-served and underserved" eligibility requirements.

12. Build into the application format the opportunity for incumbents to respond to incumbent challenges. The online mapping tool required imprecise manual drawing. Although included Census blocks could be uploaded, there was a limit to the number of Census blocks that could be manually included. While FiberTower used best efforts to accurately draw its service area, it was extraordinarily difficult to use the online mapping tool to reflect the precise service area at the Census block level. The incumbent service area challenge in Round 1, therefore, is made upon imprecise representations of the applicant's service area.